

### **REMARKS**

In the Office Action mailed 6/5/01, Claims 1 – 4 and 9 - 13 were rejected as being obvious over the prior art under 35 U.S.C. § 103.

Claims 5 – 8 and 14 - 17 were objected to, but were indicated to contain allowable subject matter.

In response, Applicant has made amendments to Claims 1, 4-5, and 9-13 in order to clarify the scope of Applicant's claimed invention. Applicant has further added new Claim 18.

#### **Rejection of Claims 1, 4, 9, 11 and 12 (as amended)**

These claims are rejected under 35 U.S.C. § 103(a) as being obvious over the combination of *Jackson*, U.S. Patent No. 5,714,909 in view of *Ho, et al.*, U.S. Patent No. 5,907,422. Applicant respectfully traverses these rejections for the reasons set forth below:

#### **Patentability of Claims 1, 4, 9, 11 and 12 (as amended)**

##### **1. The Examiner fails to make a prima facie case of obviousness**

The Examiner has not demonstrated all elements of the prima facie case, and therefore the Examiner's opinion of obviousness is deficient and Applicant is deserving of a patent. The Federal Circuit endorses this view in writing:

“if the examination at the initial stage does not produce a prima facie case of unpatentability, then without more the applicant is entitled to grant of the patent.”<sup>1</sup>

(a) All of the Relied Upon References are Not Proper

Under Section 103, prior art includes all references with effective dates before the date of invention. The date of invention of the instant case, for initial examination purposes, is at least as early as the filing date of the patent application, or 12/15/98.<sup>2</sup>

The Examiner has relied upon Ho, et al., U.S. Patent No. 5,907,422 in the rejection of these claims; Ho became public on the Issue Date of 3/25/99, more than four months after the filing date of Applicant’s application. Since the Examiner has cited prior art that was not available to the public prior to the filing date of Applicant’s application, the prima facie showing is improper, and the burden is still with the Examiner to provide an appropriate prior art reference, or else withdraw the rejections based upon the faulty reference.<sup>3</sup>

(b) The References fail to teach Each and Every Element of Applicant’s Claimed invention, either Alone or in Combination

In order to meet his prima facie burden, the Examiner must provide references teach each and every element of Applicant’s claimed invention; Applicant respectfully submits that the Examiner has failed to meet the burden for the following two reasons:

- i. The elements are different. Applicant’s Claim 1 (as amended) recites an “improved infrared transceiver system” comprising, “a first sensing means,” “gain control means,” “*staged current amplification means* . . .

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<sup>1</sup> *In re Oetiker*, 977 F.2d 1443, 24 U.S.P.Q. 2d 1443 (Fed. Cir. 1992)

<sup>2</sup> *Bates v. Coe*, 98 U.S. (8 Otto) 31, 34 (1878)

*comprised of at least two amplification stages, each said stage amplifying said current signals,” and “voltage conversion means for converting said current signals into voltage signals.” [emphasis added]* The following summarizes the teachings of Jackson and Ho and their differences from Applicant’s novel and nonobvious invention:

**Jackson, U.S. Patent No. 5,714, 909**

Jackson is a “Transimpedance Amplifier and Method for Constructing Same” that includes a “first stage” that “has a first amplifier operable . . . to provide a current signal to a second node in response to a current signal in the input node.” “A second stage is connected to the second node” and “has a second amplifier and is operable to *convert the current signal* in the second node *into an output voltage signal* at an output node.” (Abstract and Figure 1).

Clearly, Jackson teaches only a single stage of signal amplification in current form prior to conversion of the current signal into a voltage signal. In contrast, Applicant’s claim 1 (as amended) recites at least two stages of signal amplification prior to conversion from current signal to voltage signal.

**Ho, et al., U.S. Patent No. 5,907, 422**

Ho is a “Universal Optical Signal Receiver” that relates to “convert[ing] optical signals modulated by analog or digital waveforms to RF signals.” The Examiner points to the “Automatic Level Controller” in concluding that the missing gain controller of Jackson can be found in Ho. Nothing in Ho, however, teaches the use of staged current

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<sup>3</sup> 35 U.S.C. §102(b)

amplification prior to conversion of the signal into a voltage signal, as is recited in Applicant's Claim 1 (as amended).

- ii. There is not Suggestion to Combine or Alter. In order to successfully make out a prima facie case of obviousness, the Examiner must provide some reason, suggestion, or motivation from the prior art as a whole for the person of ordinary skill to have combined or modified the references.

As stated by the Federal Circuit:

“[o]bviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching suggestion or incentive supporting the combination.”<sup>4</sup>

In the instant case, the Examiner has concluded that it would have “been obvious to an artisan of ordinary skill at the time of the invention to incorporate the gain controller as taught by Ho to Jackson in order to adjust the gain of the signal and to amplify the current signal.” Applicant need not address this point in view of that fact that nothing in the art teaches an infrared transceiver having an at least two-stage amplifier for amplifying an incident signal in current form prior to conversion of the signal into voltage form. As such, this claim must be allowed.

Similarly, Claim 9 (as amended), and all claims dependent upon Claims 1 and 9, recite the similar two-stage current amplification limitation, and these claims too, therefore, are allowable.

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<sup>4</sup> See *In re Geiger*, 815 F.2d 686, 2 USPQ 2d 1276, 1278 (Fed. Cir. 1987).

**Rejection of Claim 10 (as amended)**

This claim is rejected under 35 U.S.C. §103(a) as being obvious over the combination of Jackson, in view of Ho, et al., and further in view of Gusinov, U.S. Patent No. 5,455,705. Applicant respectfully traverses this rejection for the reasons set forth above in connection with the discussion of Jackson and Ho, as well as for the reason set forth below:

**Patentability of Claim 10 (as amended)**

Applicant's Claim 10 (as amended) recites the device of Claim 9, wherein "each said stage of said amplifying comprises amplifying said current signals in a transistor operating in the weak inversion range." As evidenced by the Examiner's allowance of any of the originally-filed claims reciting current amplifiers operating in the weak inversion range, and the corresponding lack of references teaching this novel and nonobvious structure, Applicant respectfully asserts that this claim is allowable, as amended.

**Gusinov, U.S. Patent No. 5,455,705**

Applicant asserts that all grounds of rejection have been overcome without the need to address the teachings of Gusinov, however, in the interest of expedient allowance of all

claims, Applicant feels compelled to point out the deficiencies in the teachings of this reference as it applies to Applicant's application.

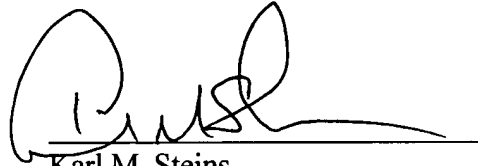
Gusinov teaches a "Transimpedance Amplifier for Optical Receiver." As clearly indicated in both Figures 1 and 2, the system includes a "Transimpedance Amplifier I to V Converter 12;" this means that device 12 both amplifies the signal and converts it from a current signal to a voltage signal. Nothing in Gusinov hints at amplifying the current signal in two stages, or by operating the amplifier(s) in the weak inversion range. In fact, the term "transimpedance" conventionally refers to an amplifier that also converts from a high impedance current signal to a low impedance voltage signal (hence the name); while Applicant's claimed system eventually converts to a voltage signal, it is not until after all pertinent signal amplification has been performed. Consequently, Gusinov fails to teach or hint at Applicant's invention as claimed in any of the pending claims.

**Conclusion**

In view of the foregoing amendments and remarks, Applicant respectfully requests that the application be reconsidered, the claims be allowed, and the case passed to issue.

Respectfully submitted,

STEINS & ASSOCIATES

A handwritten signature in black ink, appearing to read 'K. Steins', written over a horizontal line.

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